

ALIGNMENTS

RESULT 1

T00753

Probable cytochrome P450 T20B5.9 - Arabidopsis thaliana

C:Species: Arabidopsis thaliana (mouse-ear cress)

C>Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 16-Feb-2001

C/Accession: T00753; B84935

R:Rounsley, S.D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, R.C.; Sykes, S.M.; Kaul

submitted to the EMBL Data Library, November 1997

A:Description: Arabidopsis thaliana chromosome II BAC T20B5 genomic sequence.

A:Reference number: 214159

A:Accession: T00753

A:Status: translated from GB/EMBL/DBJ

A:Molecule type: DNA

A:Residues: 1508 <ROU>

A:Cross-references: EMBL:AC002409; NID:g2623294; PID:g2623303

A:Experimental source: cultivar Columbia

R:Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;

M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L.

Euss, D.; Nierman, W.C.; White, O.; Sisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J.

Nature 402, 761-768, 1999

A:Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.

A:Reference number: A84420; MUID:20083487; PMID:10617197

A:Accession: B84935

A:Status: preliminary

A:Molecule type: DNA

A:Residues: 1508 <STO>

A:Cross-references: GB:AE002093; NID:g2623303; PID:AA86449.1; GSPDB:GN0139

C:Genetics:

A:Gene: At2g40890; T20B5.9

A:Map position: 2

A:Introns: 162/1; 294/3

C:Superfamily: human cytochrome P450 CYP2D6; cytochrome P450 homology

C:Keywords: heme; iron; metalloprotein

F:296-460/Domain: cytochrome P450 homology <P45>

F:438/Binding site: heme iron (Cys) (axial ligand) #status predicted

Query Match

Best Local Similarity 100.0%; Score 2518; DB 2; Length 508;

Matches 477; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 SPKPIVGNLYDIKVRFCYEMASGPIISWIGSILNVVSSAEALAEVLEKEDQKL 60

32 SPKPIVGNLYDIKVRFCYEMASGPIISWIGSILNVVSSAEALAEVLEKEDQKL 91

61 ADRENRESTEAFSRNGODLIWADYGPVYVAVKACTLELFTPKRLSLRPIREDEVTANV 120

92 ADRENRESTEAFSRNGODLIWADYGPVYVAVKACTLELFTPKRLSLRPIREDEVTANV 151

121 ESVPFDCLPENRAKGLQIRKLTGAFAVFNITRLAFGRPMNAEGVVDQGLEFFKAIYVN 180

152 ESVPFDCLPENRAKGLQIRKLTGAFAVFNITRLAFGRPMNAEGVVDQGLEFFKAIYVN 211

181 GLKLGASLSIAEHIPMLKMFPADEKFAAEHGAARDLRLTAIMEHTLAKOKSSGAKOHF 240

212 GLKLGASLSIAEHIPMLKMFPADEKFAAEHGAARDLRLTAIMEHTLAKOKSSGAKOHF 271

241 VDALLTLKQYDLSDDTIIGLLMDMTAGMDTITAEWMAEMIKNPRVQKVOGEFDR 300

272 VDALLTLKQYDLSDDTIIGLLMDMTAGMDTITAEWMAEMIKNPRVQKVOGEFDR 331

301 VVGLDRILTEADPSRLPYLCQVYSEFRLHPTPLMLPHSNADVIGYDIKGSNVAV 360

332 VVGLDRILTEADPSRLPYLCQVYSEFRLHPTPLMLPHSNADVIGYDIKGSNVAV 391

361 NWVAARDPAVAKNPFERPERLEEDVDKMGHDFRLLPFGAGRVCPGAOLGINLVTSN 420

392 NWVAARDPAVAKNPFERPERLEEDVDKMGHDFRLLPFGAGRVCPGAOLGINLVTSN 451

421 MSLLHFRVWTPPGTKPEEIDMSNPGLVTVMTPTVOAVATPRLPSDLTKRVPYDM 477

Db

452 MSLLHFRVWTPPGTKPEEIDMSNPGLVTVMTPTVOAVATPRLPSDLTKRVPYDM 508

RESULT 2

T05937

Cytochrome P450 monooxygenase 98h2p - soybean

C:Species: Glycine max (soybean)

C>Date: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 28-Jul-2000

C/Accession: T05937

R:Stiminzky, B.; Dewey, R.E.; Corbin, F.T.

submitted to the EMBL Data Library, September 1997

A:Reference number: 215442

A:Accession: T05937

A:Status: preliminary

A:Molecule type: mRNA

A:Residues: 1509 <SIM>

A:Cross-references: EMBL:AF022458; NID:g2738997; PID:AA894587.1; PID:g2738998

C:Genetics:

A:Note: CYP98A2

C:Superfamily: human cytochrome P450 CYP2D6; cytochrome P450 homology

C:Keywords: heme; iron; metalloprotein

F:297-461/Domain: cytochrome P450 homology <P45>

F:439/Binding site: heme iron (Cys) (axial ligand) #status predicted

Query Match

Best Local Similarity 85.5%; Score 2154; DB 2; Length 509;

Matches 393; Conservative 45; Mismatches 38; Indels 0; Gaps 0;

2 PKPIVGNLYDIKVRFCYEMASGPIISWIGSILNVVSSAEALAEVLEKEDQKL 61

34 PKPIVGNLYDIKVRFCYEMASGPIISWIGSILNVVSSAEALAEVLEKEDQKL 93

62 DRHRNSTEAFSRNGODLIWADYGPVYVAVKACTLELFTPKRLSLRPIREDEVTANV 121

94 DRHRNSTEAFSRNGODLIWADYGPVYVAVKACTLELFTPKRLSLRPIREDEVTANV 153

122 SVFRDCLPENRAKGLQIRKLTGAFAVFNITRLAFGRPMNAEGVVDQGLEFFKAIYVN 181

154 SVFRDCLPENRAKGLQIRKLTGAFAVFNITRLAFGRPMNAEGVVDQGLEFFKAIYVN 213

182 LKLGASLSIAEHIPMLKMFPADEKFAAEHGAARDLRLTAIMEHTLAKOKSSGAKOHF 241

214 LKLGASLSIAEHIPMLKMFPADEKFAAEHGAARDLRLTAIMEHTLAKOKSSGAKOHF 273

242 DALITLKQYDLSDDTIIGLLMDMTAGMDTITAEWMAEMIKNPRVQKVOGEFDR 301

274 DALITLKQYDLSDDTIIGLLMDMTAGMDTITAEWMAEMIKNPRVQKVOGEFDR 333

302 VVGLDRILTEADPSRLPYLCQVYSEFRLHPTPLMLPHSNADVIGYDIKGSNVAV 361

334 VVGLDRILTEADPSRLPYLCQVYSEFRLHPTPLMLPHSNADVIGYDIKGSNVAV 393

362 NWVAARDPAVAKNPFERPERLEEDVDKMGHDFRLLPFGAGRVCPGAOLGINLVTSN 421

394 NWVAARDPAVAKNPFERPERLEEDVDKMGHDFRLLPFGAGRVCPGAOLGINLVTSN 453

422 MSLLHFRVWTPPGTKPEEIDMSNPGLVTVMTPTVOAVATPRLPSDLTKRVPYDM 477

454 MSLLHFRVWTPPGTKPEEIDMSNPGLVTVMTPTVOAVATPRLPSDLTKRVPYDM 509

RESULT 3

T14638

Cytochrome P450 CYP98A1 - sorghum

C:Species: Sorghum bicolor (sorghum)

C>Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 16-Feb-2001

C/Accession: T14638

R:Bak, S.; Kahn, R.A.; Nielsen, H.L.; Molter, B.L.; Halter, B.A.

Plant Mol. Biol. 36, 393-405, 1998

A:Title: Cloning of three cytochromes P450, CYP71E1, CYP98, and CYP99 from Sorghum b

tional cytochrome P450 in the biosynthesis of the cyanogenic glucoside dhurrin.

A:Reference number: 218164; MUID:98145474; PMID:9484480

A:Accession: T14638